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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SHEW, JOHN

ART UNIT PAPER NUMBER

2664

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/668,786

Applicant(s)

DONZIS ET AL.

Examiner

John L Shew

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-5, 8, 13, 15-19, 21-26 and 29-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Border et al. For claim 1 Border teaches a system (FIG. 1) of indicating a message size (ABSTRACT lines 10-14) referenced by the maximum segment size, comprising a controller (page 2 paragraph [0014]) referenced by the performance enhancing proxy, adapted to receive a first message (FIG. 4A), shown by Local PEP End Point 402, containing a data portion (page 2 paragraph [0015]) referenced by the TCP data segment, and an indication of a size for the data portion (page 8 paragraph [0104]) referenced by the MSS value, the controller adapted to modify the indication to indicate a different size for the data portion (page 24 paragraph [0275]) referenced by the reducing the size of MSS.
2. Claim 2 is rejected by claim 1 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a system to determine a maximum size of data capable of being communicated along a downstream path, the controller modifying

the indication based on the determination, (page 24 paragraph 0275) incorporates by reference RFC1191 the use of PMTU or Path Maximum Transmission Unit discovery algorithm. RFC1191 discloses a technique of estimating the PMTU whereby its datagrams can be delivered without fragmentation (page 3 paragraph 2) referenced by use the DF bit along with ICMP Destination Unreachable messages.

3. Claim 3 is rejected by claim 1 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a data portion size indication comprises a TCP MSS indication (FIG. 12) references a TCP connection header 1214 and Parameters and/or Data 1216 further elaborated (page 8 paragraph [0104]) that MSS is a TCP parameter.

4. Claim 4 is rejected by claim 1 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a local area network (FIG. 2) referenced by Local LAN Interfaces 220.

5. Claim 5 is rejected by claims 1 and 4 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches an Ethernet network (page 24 paragraph [0268]) referenced by the Ethernet MTU supporting the MSS value.

6. Claim 8 is rejected by claim 1 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches the controller (FIG. 4A) referenced by PEP 402 able to transmit a second message (FIG. 4A) CR 403, containing the indication of size (page 8 paragraph [0103]) referenced by the MSS value.

7. Claim 13 is rejected by claim 1 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches the modification of indication of size based

on usage of a predetermined communications protocol (page 24 paragraph [0275]), referenced as reduction of the size of the MSS based on the PMTU discovery algorithm.

8. Claim 15 is rejected by claim 1 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches an indication of maximum size for the data portion (page 8 paragraph [0104]) referenced by the MSS value.

9. Claim 16 is rejected under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a system (FIG. 1) of indicating a message size (ABSTRACT lines 10-14) referenced by the maximum segment size, to receive a message (FIG. 4A), shown by Local PEP End Point 402, containing a data portion (page 2 paragraph [0015]) referenced by the TCP data segment, and an indication of a length for the data portion (page 8 paragraph [0104]) referenced by the MSS value, modifying the indication to indicate a different length for the data portion (page 24 paragraph [0275]) referenced by the reducing the size of MSS.

10. Claims 17, 18 and 19 are rejected by claim 16 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches the use a predetermined communication protocol (page 24 paragraph [0275]) referenced by the PMTU discovery algorithm wherein RFC1191 is incorporated by reference. RFC1191 discloses an adjustment of the indication based on a characteristic of a link between the system and another node (page 3, 4th and 5th paragraphs) referenced by the reception of ICMP "Datagram Too Big" message over the link with a field to report the Maximum Transmission Unit of the constricting hop thereby the source reduces its Path Maximum Transmission Unit for the path. Border further teaches adjusting the indication based on

maximum message size (page 24 paragraph [0275]) referenced by reducing the MSS value.

11. Claims 21 and 22 are rejected by claims 16, 17, 18 and 19 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches receiving a message having a TCP maximum segment size (page 24 paragraph [0268]) references TCP implementations supporting MSS. Further Border teaches a maximum length of the data portion (page 8 paragraph [0104]) references MSS value based on the configured path maximum transmission unit.

12. Claims 23, 24, 25 and 26 are rejected by claims 16, 17, 18, 19, 20 and 21 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a storage medium containing instructions (page 2 paragraph [0022]) referenced by a computer readable medium carrying one or more instruction sequences.

13. Claim 29 is rejected by claims 16-21 and 23-26 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a system to transmit a second message containing the modified indication (FIG. 36) referenced by Remote PEP End Point 404 transmitting CE message 473 with MSS=500.

14. Claim 30 is rejected by claims 16-21, 23-26 and 29 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a system response having a size dependent on the modified indication (FIG. 37) reference a response message DATA 477 reduced down to 500 Bytes from the previous DATA 463 of 1000 Bytes due to a CE 473 message with MSS=500.

15. Claim 31 is rejected by claim 16 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a data signal embodied in a carrier wave containing instructions (page 26 paragraph [0290]) referenced by application code in the form of a carrier wave.

16. Claims 32, 33, 34 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a method of indicating message size comprising receiving a message (FIG. 36) containing a maximum segment size (page 8 paragraph [0104]) reference MSS value determined from path maximum transmission unit, determining a maximum data size supportable by a link (page 24 paragraph [0275]) referenced by usage of PMTU discovery algorithm, comparing the determined maximum data size with the maximum segment size value (page 8 paragraph [0104]) referenced by the mismatch of the MSS values, modifying the maximum segment size based on the determination (page 8 paragraph [0104]) referenced by the TCP Spoofing Kernel adjusting size of data segments before sending them. Border teaches sending a message containing the modified maximum segment size (FIG. 36) referenced by CE 473 with MSS=500. Border teaches receiving a message containing TCP header with maximum segment size (FIG. 12) referenced a TCP header (FIG. 36) referenced a message <SYN, ACK> 467 with an MSS value.

17. Claim 36 is rejected by claims 32-35 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a storage medium containing instructions (page 2 paragraph [0022]) referenced by a computer readable medium carrying one or more instruction sequences.

18. Claim 37 is rejected by claims 32-36 above and under 35 U.S.C. 102(e) as being anticipated by Border et al. Border teaches a system with means of performing the comprised steps (FIG. 2) referenced a Performance Enhancing Proxy containing the hardware and software capabilities.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Border as applied to claim 1 above, and further in view of RFC2516. Border teaches the use of Ethernet specific parameters (page 24 paragraph [0268]) referenced by the Ethernet MTU supporting the MSS value. Border does not disclose the Ethernet frame format inherent to the Ethernet specification. RFC2516 discloses the Ethernet frame format (page 3, 1st figure). RFC further discloses an Internet Protocol packet (page 4, 1st figure) in the form of an Ethernet payload for a PPPoE specification. It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use an Ethernet frame format, inclusive of a PPPoE payload for the purpose of establishing an Ethernet based communications network. One skilled in the art would

have been motivated to generate the claimed invention with a reasonable expectation of success.

20. Claims 9, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Border as applied to claims 1 and 8 above, and further in view of RFC2516. Border teaches the use of Ethernet specific parameters (page 24 paragraph [0268]) referenced by the Ethernet MTU supporting the MSS value. Border does not disclose the Ethernet frame format inherent to the Ethernet specification. RFC2516 discloses the Ethernet frame format inclusive of an Ethernet payload for PPPoE specification (page 4, 1st figure). This format includes a data portion referenced by the payload and a control portion referenced by the VER, TYPE, CODE, SESSION_ID and LENGTH. Further the control elements will change between the first message and the second message depending on the function of the PEP. RFC2516 discloses a Point-to-Point Protocol control element (page 15, 1st figure) referenced by PPP PROTOCOL being an extension of the previously stated control elements. The control element VERSION is set to 1 and the control element TYPE is set to 1, which is an indication of using Point-to-Point Protocol over Ethernet specification (page 4, lines 2-5). It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use an Ethernet frame format, inclusive of a PPPoE payload for the purpose of establishing an Ethernet based communications network. One skilled in the art would have been motivated to generate the claimed invention with a reasonable expectation of success.

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21. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Border as applied to claims 1 and 8 above, and further in view of RFC2516. Border teaches the maximum segment size value of 1460 bytes (page 24 paragraph [0268]) referenced by mapping the Maximum Transmission Unit value of 1500 bytes to an Maximum Segment Size value of 1460 bytes. Border does not teach reduction of the MSS value down to 1452 bytes. RFC2516 discloses a reduction of the Maximum Transmission Unit from 1500 octets down to 1492 octets (page 7 paragraph 4) referenced as Maximum-Receive-Unit to allow for the additional 8 octets required for PPPoE header and PPP Protocol ID. It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to reduce the MSS value from 1460 down to 1452 when using the PPPoE specification for the purpose of establishing an Ethernet based communications network. One skilled in the art would have been motivated to generate the claimed invention with a reasonable expectation of success.

22. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Border as applied to claims 1 and 13 above, and further in view of RFC2516. Border teaches the use of Ethernet specific parameters (page 24 paragraph [0268]) referenced by the Ethernet MTU supporting the MSS value. Border does not disclose the Ethernet frame format inherent to the Ethernet specification. RFC2516 discloses the Ethernet frame format inclusive of an Ethernet payload for PPPoE specification (page 15, 1st figure). It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use an Ethernet frame format, inclusive of a PPPoE payload for the purpose of establishing an Ethernet based communications network. One skilled in

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the art would have been motivated to generate the claimed invention with a reasonable expectation of success.

23. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Border as applied to claims 16-19 above, and further in view of RFC2516. Border teaches the use of Ethernet specific parameters (page 24 paragraph [0268]) referenced by the Ethernet MTU supporting the MSS value. Border does not disclose the Ethernet frame format which is inherent to the Ethernet specification. RFC2516 discloses the Ethernet frame format inclusive of an Ethernet payload for PPPoE specification (page 15, 1st figure). It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use an Ethernet frame format, inclusive of a PPPoE payload for the purpose of establishing an Ethernet based communications network. One skilled in the art would have been motivated to generate the claimed invention with a reasonable expectation of success.

24. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Border as applied to claims 16-21, and 23-26 above, and further in view of RFC2516. Border teaches the use of Ethernet specific parameters (page 24 paragraph [0268]) referenced by the Ethernet MTU supporting the MSS value. Border does not disclose the Ethernet frame format inherent to the Ethernet specification. RFC2516 discloses the Ethernet frame format inclusive of a Point-to-Point Protocol (page 15, 1st figure) referenced by control element PPP PROTOCOL .

25. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Border as applied to claims 16-21, and 23-26 above, and further in view of RFC2516. Border

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teaches the use of Ethernet specific parameters (page 24 paragraph [0268]) referenced by the Ethernet MTU supporting the MSS value. Border does not disclose the Ethernet frame format inherent to the Ethernet specification. RFC2516 discloses the Ethernet frame format inclusive of a Point-to-Point over Ethernet protocol (page 4, 1st figure) referenced by the Ethernet payload for PPPoE.

Citation of Prior Art

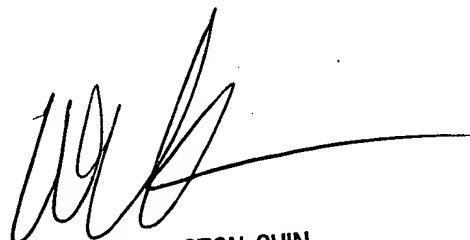
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Voit teaches a ADSL network queuing structure using PPPoE to concentrate ATM traffic. Dillion teaches a TCP/IP spoofing protocol.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L Shew whose telephone number is 703-305-8708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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